



STEVAL-IMR002V1

2 kW/100 V RF demonstration board for 3 T MRI
based on the STAC4932B

Data brief

Features

- Output power: 2 kW
- Supply voltage: 100 V
- Frequency: 123 MHz
- Power gain: 19 dB
- Efficiency: 60%
- RoHS compliant

Description

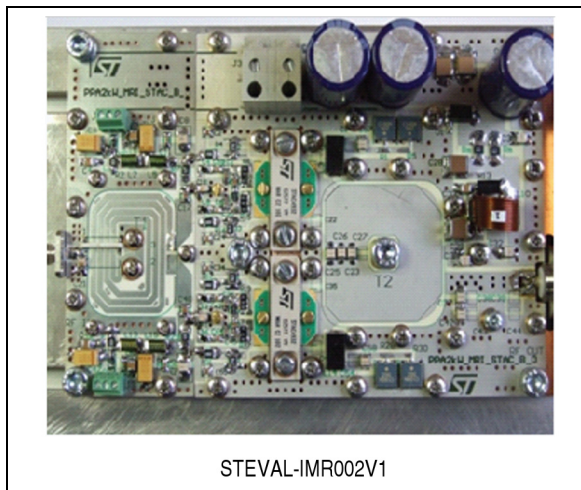
The STEVAL-IMR002V1 demonstration board is based on the new generation of high voltage DMOS products housed in the STAC[®] air cavity package and capable of delivering an output power up to 1.2 kW for industrial, scientific, and medical applications such as 1.5 T and 3 T magnetic resonance imaging (MRI).

This new air-cavity technology now enables lower thermal resistance, lower weight, and reduced cost compared to devices in ceramic packages.

The STEVAL-IMR002V1 demonstration board implements the design of a 2 kW-100 V, 123 MHz Class AB peak power amplifier (PPA) for 3 Tesla MRI applications.

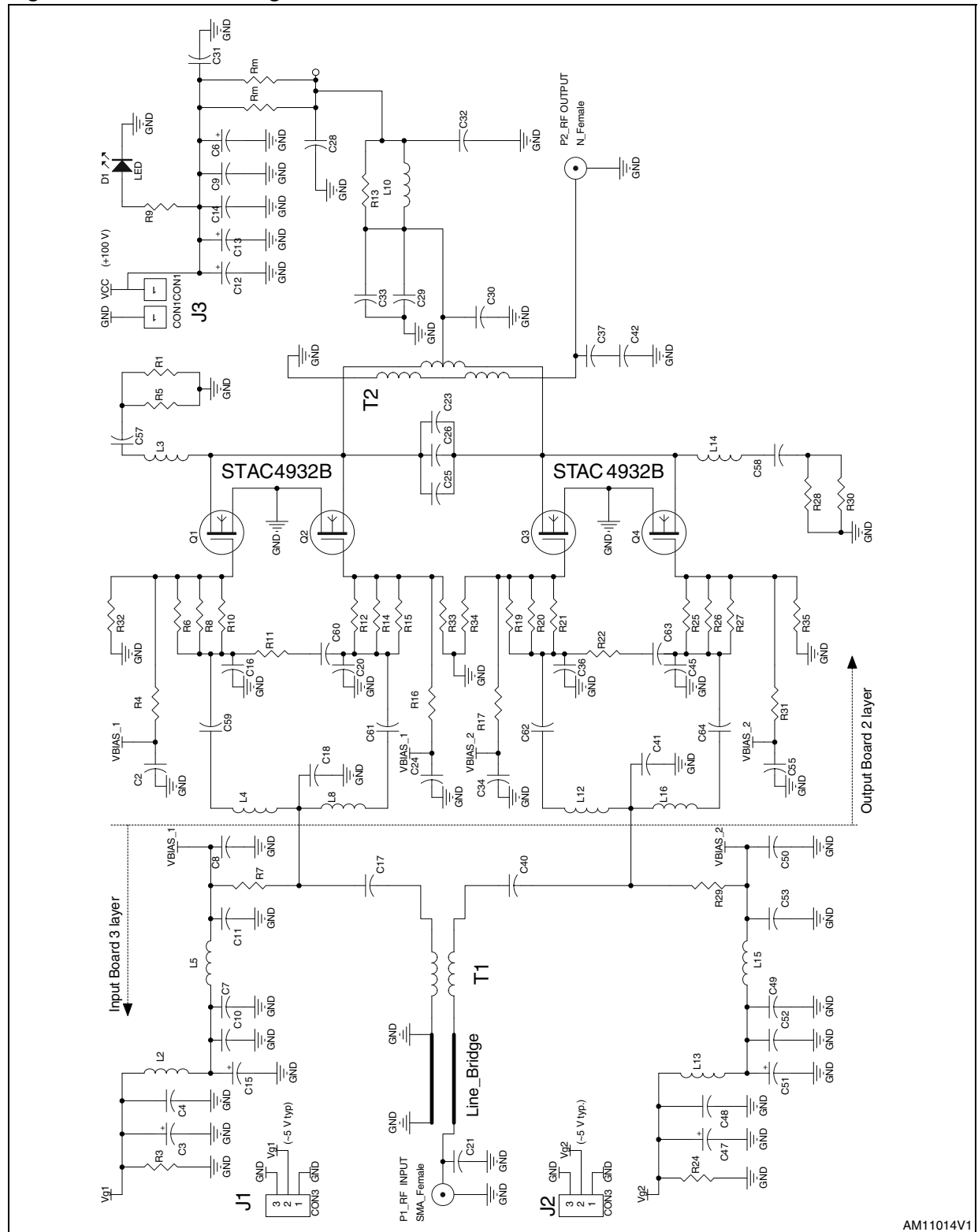
It uses double push-pull bolt-down devices, two STAC4932B - N-channel MOSFETs, capable of exceeding 2000 W @ 123 MHz with large signal gain of 19 dB in Class AB and a drain efficiency of 60%.

It almost doubles the output power of previous amplifiers using MOSFET transistors in standard ceramic packages.



1 Schematic circuit

Figure 1. Schematic diagram



AM11014V1

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
20-Dec-2011	1	Initial release.

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